

WHAT IS CLAIMED IS:

1. A telecommunication element having a color identifying coating thereon, the telecommunication element comprising:

5 an elongated communication transmission medium; and
a radiation cured polymeric coating having an identifying color applied on at least a portion of the transmission medium, wherein the identifying color in the polymeric coating is provided by at least one chromophore molecule covalently bonded thereto.

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2. The communications element of claim 1, wherein the elongated transmission medium is an optical fiber having a core and a cladding surrounding the core.

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3. The communications element of claim 1, wherein the elongated transmission medium is an optical fiber having a core, a cladding surrounding the core and a polymeric coating on the cladding.

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4. The communications element of claim 1, wherein the elongated transmission medium is an optical fiber having a core, a cladding surrounding the core, an inner polymeric coating on the cladding and an outer polymeric coating on the inner polymeric coating.

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5. The communications element of claim 1, wherein the elongated transmission medium is a plurality of optical fibers arranged in an array.

6. A colored, radiation curable coating composition for providing a telecommunication element with a color identifying polymeric coating having

chromophore molecules covalently bonded thereto, the coating composition comprising:

a radiation curable composition capable of forming a polymeric coating;
and

5 a colored oligomer having chromophore molecules covalently bonded thereto and wherein the colored oligomer is capable of covalent bonding with the radiation curable composition.

7. The composition of claim 6, wherein the colored oligomer comprises
10 approximately 0.1 to 60 weight percent of the colored coating composition.

8. The coating composition of claim 6, wherein the radiation curable composition includes an aliphatic urethane acrylate component.

9. The coating composition of claim 8, wherein the radiation curable
15 composition further includes a reactive diluent component.

10. The coating composition of claim 9, wherein the reactive diluent component comprises up to 30 weight percent of the radiation curable
20 composition.

11. The coating composition of claim 8, wherein the radiation curable composition further includes a photo-initiator.

12. The coating composition of claim 11, wherein the photo-initiator
25 comprises up to 10 weight percent of the radiation curable composition.

13. A method for producing a color identifying polymeric coating having chromophore molecules covalently bonded thereto on at least a portion of a

transmission medium of a telecommunication element, the method comprising the steps of:

providing a transmission medium;

providing a colored, radiation curable coating composition comprising:

5 a radiation curable composition capable of forming a polymeric coating; and

a colored oligomer having chromophore molecules covalently bonded thereto and wherein the colored oligomer is capable of covalent bonding with the radiation curable composition;

10 applying the coating composition to at least a portion of the transmission medium; and

exposing the applied coating composition for a suitable period of time to radiation of a suitable wavelength and intensity to cause curing of the composition into the color identifying polymeric coating.

15 14. The method of claim 13, wherein the colored oligomer comprises approximately 0.1 to 60 weight percent of the colored coating composition.

20 15. The method of claim 13, wherein the radiation curable composition includes an aliphatic urethane acrylate component.

16. The method of claim 15, wherein the radiation curable composition further includes a reactive diluent component.

25 17. The method of claim 16, wherein the reactive diluent component comprises up to 30 weight percent of the radiation curable composition.

18. The method of claim 15, wherein the radiation curable composition further includes a photo-initiator.

19. The method of claim 18, wherein the photo-initiator comprises up to 10 weight percent of the radiation curable composition.

20. The method of claim 13, wherein the elongated transmission medium
5 is an optical fiber.

21. The communications element of claim 13, wherein the elongated
transmission medium is an optical fiber having a core and a cladding surrounding
the core.

22. The communications element of claim 13, wherein the elongated
transmission medium is an optical fiber having a core, a cladding surrounding the
core and a polymeric coating on the cladding.

23. The communications element of claim 13, wherein the elongated
transmission medium is an optical fiber having a core, a cladding surrounding the
core, an inner polymeric coating on the cladding and an outer polymeric coating
on the inner polymeric coating.

24. The communications element of claim 13, wherein the elongated
transmission medium is a plurality of optical fibers arranged in an array.